



Complete Summary

GUIDELINE TITLE

Admission and discharge guidelines for the pediatric patient requiring intermediate care.

BIBLIOGRAPHIC SOURCE(S)

Jaimovich DG, Committee on Hospital Care and Section on Critical Care.
Admission and discharge guidelines for the pediatric patient requiring intermediate care. Pediatrics 2004 May;113(5):1430-3. [6 references] [PubMed](#)

GUIDELINE STATUS

This is the current release of the guideline.

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SCOPE

DISEASE/CONDITION(S)

Illness requiring intermediate care, including:

- Respiratory diseases
- Cardiovascular diseases
- Neurologic diseases
- Hematologic/Oncologic diseases

- Endocrine/Metabolic diseases
- Gastrointestinal diseases
- Surgery
- Renal diseases
- Multisystem and other diseases

GUIDELINE CATEGORY

Management

CLINICAL SPECIALTY

Cardiology
Endocrinology
Gastroenterology
Hematology
Neurology
Nursing
Oncology
Pediatrics
Pulmonary Medicine
Surgery

INTENDED USERS

Hospitals
Physicians

GUIDELINE OBJECTIVE(S)

- To provide lists of criteria that may be incorporated into multidisciplinary guidelines for the admission and discharge of children requiring intermediate care
- To provide guidance for the care of children requiring intermediate care in hospitals without a pediatric intensive care unit

TARGET POPULATION

Pediatric patients with a severity of illness that does not require intensive care but does require greater services than those provided by routine inpatient general pediatric care

INTERVENTIONS AND PRACTICES CONSIDERED

1. Assessment of patients for admission to intermediate care
2. Discharge or transfer from intermediate care

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Guidelines for the Patient Requiring Intermediate Care

I. Respiratory Diseases

Patients with moderate pulmonary or airway disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients with the potential need for endotracheal intubation
- B. Patients requiring minimal support with mechanical ventilation delivered by mature and stable tracheostomy. This would apply primarily to children with chronic respiratory insufficiency.
- C. Patients with progressive pulmonary (lower or upper airway) disease of moderate severity with risk of progression to respiratory failure or with obstruction potential
- D. Patients acutely requiring supplemental oxygen (fraction of inspired oxygen ≥ 0.5), regardless of cause
- E. Stable tracheotomy patients
- F. Patients requiring frequent (at intervals < 2 hours), intermittent, or continuous nebulized medications (according to institutional guidelines)
- G. Patients requiring apnea work-up and cardiorespiratory monitoring

II. Cardiovascular Diseases

Patients with moderate cardiovascular disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients with non-life-threatening dysrhythmias with or without the need for cardioversion
- B. Patients with non-life-threatening cardiac disease requiring low-dose intravenous inotropic or vasodilator therapy
- C. Patients undergoing high-risk cardiac procedures who require close monitoring and who do not have hemodynamic or respiratory compromise
- D. Patients who have undergone closed-heart cardiovascular and intrathoracic surgical procedures, including patent ductus-arteriosus repair, vascular shunts, permanent pacemaker placement, and open thoracotomy who do not have hemodynamic or respiratory compromise

III. Neurologic Diseases

Patients with non-life-threatening neurologic disease requiring multidisciplinary intervention, frequent monitoring, and neurologic

assessment not more than every 2 hours, including but not limited to the following, may be admitted:

- A. Patients with seizures who are responsive to therapy but require continuous cardiorespiratory monitoring and who do not have hemodynamic compromise but have the potential for respiratory compromise
- B. Patients with altered sensorium in whom neurologic deterioration or depression is unlikely and neurologic assessment is required
- C. Postoperative neurosurgical patients requiring cardiorespiratory monitoring
- D. Patients with acute inflammation or infections of the central nervous system without neurologic deficiency or other complications
- E. Patients with head trauma without progressive neurologic signs or symptoms
- F. Patients with progressive neuromuscular dysfunction without altered sensorium requiring cardiorespiratory monitoring

IV. Hematologic/Oncologic Diseases

Patients with potentially unstable hematologic or oncologic disease or non-life-threatening bleeding requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients with severe anemia without hemodynamic or respiratory compromise
- B. Patients with moderate complications of sickle cell crisis, such as respiratory distress, without acute chest syndrome
- C. Patients with thrombocytopenia, anemia, neutropenia, or solid tumor who are at risk of cardiopulmonary compromise but who are currently stable and, as a result, require close cardiorespiratory monitoring

V. Endocrine/Metabolic Diseases

Patients with potentially unstable endocrine or metabolic disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients with moderate diabetic ketoacidosis (blood glucose concentration <500 mg/dL or pH ≥ 7.2) requiring continuous insulin infusion therapy without altered sensorium
- B. Patients with other moderate electrolyte and/or metabolic abnormalities (requiring cardiac monitoring and therapeutic intervention), such as:
 - 1. Hypokalemia (blood potassium concentration <2.0 mEq) and hyperkalemia (blood potassium concentration >6.0 mEq)
 - 2. Hyponatremia and hypernatremia with alterations in clinical status (i.e., seizures or altered mental status)
 - 3. Hypocalcemia or hypercalcemia
 - 4. Hypoglycemia or hyperglycemia
 - 5. Moderate metabolic acidosis requiring bicarbonate infusion.

- C. Patients with inborn errors of metabolism requiring cardiorespiratory monitoring

VI. **Gastrointestinal Diseases**

Patients with potentially unstable gastrointestinal disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients with acute gastrointestinal bleeding but who do not have hemodynamic or respiratory instability
- B. Patients with a gastrointestinal foreign body or other gastrointestinal problem requiring emergency endoscopy but who do not have cardiorespiratory compromise
- C. Patients who have chronic gastrointestinal or hepatobiliary insufficiency but do not have coma, hemodynamic, or respiratory instability

VII. **Surgery**

All patients requiring multidisciplinary intervention and frequent monitoring who have undergone surgical procedures but who do not have hemodynamic or respiratory instability, including but not limited to the following, may be admitted:

- A. Patients who have undergone cardiovascular surgery
- B. Patients who have undergone thoracic surgery
- C. Patients who have undergone neurosurgical procedures
- D. Patients who have undergone upper or lower airway surgery
- E. Patients who have undergone craniofacial surgery
- F. Patients who have had thoracic or abdominal trauma
- G. Patients being treated for multiple traumatic injuries

VIII. **Renal Diseases**

Patients with potentially unstable renal disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients with hypertension without seizures, encephalopathy, or other symptoms, but who require frequent intermittent therapeutic intravenous or orally administered medication
- B. Patients with noncomplicated nephrotic syndrome (regardless of cause) with chronic hypertension requiring frequent blood pressure monitoring
- C. Patients with renal failure, regardless of cause
- D. Patients requiring chronic hemodialysis or peritoneal dialysis

IX. **Multisystem and Other Diseases**

Patients with potentially unstable multisystem disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

- A. Patients requiring the application of special technologic needs, including:
 - 1. Use of respiratory assistance, such as continuous positive airway pressure, bi-level positive airway pressure, or chronic home ventilation
 - 2. Tracheostomy care requiring frequent pulmonary hygiene and suctioning
 - 3. Pleural or pericardial drains after initial stabilization (for patients who do not have respiratory or hemodynamic compromise)
 - 4. Medications or resource needs in excess of those provided in the general patient care unit
- B. Patients who are direct admissions from another health care facility outside the hospital (may be directly admitted for intermediate care)
- C. Patients with uncomplicated toxic ingestion who do not have cardiovascular or respiratory compromise and who require cardiorespiratory monitoring

Discharge and Transfer Guidelines for the Intermediate Care Patient

Patients will be evaluated and considered for transfer to general care or special care units when the disease process has reversed or the physiologic condition that prompted admission has resolved and the need for multidisciplinary intervention and treatment is no longer present. The decision to transfer or discharge to home will be made on the basis of the following criteria:

- A. If patient's condition deteriorates and he or she requires care beyond the capabilities of the unit providing intermediate care, he or she should be admitted or readmitted to a pediatric intensive care unit.
- B. Patient should be transferred to a floor or specialty care unit or discharged from the hospital, as appropriate, if the following criteria apply:
 - 1. Patient has stable hemodynamic parameters for at least 6 to 12 hours.
 - 2. Patient has stable respiratory status and has been extubated with evidence of acceptable gas exchange for more than 4 hours.
 - 3. Patient has minimal oxygen requirements as evidenced by a fraction of inspired oxygen of 0.4 or less.
 - 4. Intravenous inotropic support, vasodilators, and antiarrhythmic drugs are no longer required, or, when applicable, low doses of these medications may be administered to otherwise stable patients in a designated patient care unit.
 - 5. Cardiac arrhythmias are controlled for a reasonable period of time but not less than 24 hours.
 - 6. Patient has neurologic stability with control of seizures for a reasonable period of time.
 - 7. All invasive hemodynamic monitoring devices have been removed (e.g., arterial lines).
 - 8. Patient who had required chronic mechanical ventilation and has experienced resolution of the acute illness that required intermediate or intensive care has now returned to baseline clinical status.

9. Patient will require peritoneal dialysis or hemodialysis on a routine basis and therefore may receive these treatments as an outpatient or in a designated patient care unit.
10. The need for multidisciplinary intervention is predictable and compatible with policies of the receiving patient care unit.
11. The health care team, after careful multidisciplinary assessment and together with the patient's family, decides that there would be no benefit to keeping the child hospitalized or that the course of treatment is medically futile.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting each recommendation is not specifically stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

These criteria, based on expert opinion, may assist hospitals and physicians in creating a safe environment for children with a higher intensity of service needs.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

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- The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.
- It is intended that these guidelines be modified by individual institutions, depending on the availability of resources, personnel, and equipment necessary to evaluate and treat a seriously ill child.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 May

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society
Society of Critical Care Medicine - Professional Association

SOURCE(S) OF FUNDING

American Academy of Pediatrics

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Academy of Pediatrics \(AAP\) Web site](#).

Print copies: Available from American Academy of Pediatrics, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on July 2, 2004. The information was verified by the guideline developer on August 4, 2004.

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